	United States Environmental Protection Agency Washington, DC 20460				Work Assignment Number			
					3-09			
EPA	Work A	Work Assignment				Amendm	nent Number:	
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Contract Number	Contract Period 04/	/29/2011 To	03/31/:	2014	Title of Work Assignment/SF Site Name			
EP-D-11-006	Base	Option Period Nur	mber 2		Passive Samp	oling Metho	ods	
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				Brar	Branch/Mail Code:			
					Phone Number 919-541-1865			
(Signature) (Date)				219 3215000	FAX Number:			
Project Officer Name Karen C. Watson				Bran	Branch/Mail Code:			
				Pho	Phone Number: 919-541-3114			
(Signature) (Date)					FAX Number:			
Other Agency Official Name				Brar	Branch/Mail Code:			
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(Signature) (Date)				FAX	FAX Number:			
Contracting Official Name Rodney-Daryl Jones				Brar	Branch/Mail Code:			
				Pho	Phone Number: 919-541-3112			
(Signature)		(Date)	FAX	Number:			

I. Work Assignment Title: Collaborative Evaluation/Validation of Low-Cost Volatile

Organic Compound Passive Sampling Methods Contractor Name: Eastern Research Group

Contract #: EP-D-11-006 Work Assignment #: 3-09

II. Work Assignment Manager (WAM):

WAM Name: Shaibal Mukerjee, Ph.D.

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E-Mail: Mukerjee.Shaibal@epa.gov

Alt. WAM Name: Eben Thoma, Ph.D.

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III. Level of Effort:

Level of Effort: 120 LOE hours (initially to prepare work plan and begin work)

Duration 1 year Completion Date: 3/31/14

IV. Background

This WA is a continuation of WA 2-11 (same title), Contract EP-D-11-006. Background information is presented in WA 2-11. The focus of this WA is to conduct monitoring and analysis using passive sorbent (PS) tubes to evaluate EPA Draft Method 325 A/B. This RARE/Regional Method project involves a team of EPA Regions (Regions 3, 5, 6, 8), ORD (NERL, NRMRL), NEIC, and OAQPS that will deploy Carbopack X PS tubes (in duplicates) downwind of select VOC sources at fence-line locations around the country. Field sampling will take place for up to one year in each participating region, with up to a two-week sample exposure collected during each observation. (This monitoring and analysis phase was identified as Phase

2 in WA 2-11 and is considered an integrated plan in the WA.) The purpose of this work assignment (WA) is to:

- Complete project planing and quality assurance project plan activities initiated under WA 2-11 to include an integrated plan for the laboratory rounds robin and regional passive sampler deployments.
- 2. Provide additional PS (Carbopack X sorbent) tubes and associated equipment needed to execute the integrated plan (as required).
- 3. Lab analysis of of samples generated from the EPA Regions and laboratory round robin studies as per the QAPP
- 4. Short-form report of all data, Chain of custody, and QA measures analyzed in appropriate electronic format databases (MS Access and Excel).

V. Description and Tasks:

Task #1: Management and Work Plan

The Contractor shall plan for technical conference calls on an as-needed basis to brief the WA COR and EPA team on progress or issues to complete each task. The contractor shall prepare a work plan describing the technical approach for each of the tasks in this work assignment. In addition the Contractor shall provide a cost and labor estimate for the total work assignment and the cost and labor required to complete each of the WA tasks. The Contractor shall provide monthly reports to the EPA WA COR as required by the contract deliverables and must contain a summary of technical progress and WA resource use (labor and cost) information as required by the contract.

Task 1 Deliverables:

- 1. Work Plan
- 2. Monthly Progress Reports

Task #2: Project planning and generation of quality assurance project plan (QAPP)

The Contractor shall complete the project plaing activities and the Category III QAPP development and chain of custody plan initiated under WA 2-11.) The project planning and quality assurance project plan shall include the laboratory round robin testing. The contractor shall participate in meetings with the WA COR and EPA project team at the beginning of the project for planning purposes.

Task #3: Purchase of PS tubes

The Contractor shall provide PS (Carbopack X sorbent) tubes and associated sampler hoods and hanging mechanisms for the project as described in the QAPP. (The number of tubes to be ordered will be determined by the EPA WA COR in consultation with the Contractor once the sampling schedule is determined.)

Task #4: Analysis of PS tubes and database of analytical results and round robin lab analyses

The Contractor shall conduct lab analysis of samples from EPA Regions following the EPA Draft Method 325 analytical method. (Labs employed shall be determined from the letter report on round robin lab results in WA 2-03 of this contract.) Additional round robin analysis shall be performed prior to or during analysis the study as per approved QAPP (see preliminary details regarding potential round robin elements and reporting results are in Table 1 below). (The number of analyses will be determined by the EPA WA COR in consultation with the Contractor once the sampling schedule is determined.) The Contractor shall report all results from the integrated study in electronic format databases only (MS Access and Excel). Task 4 Deliverables:

1. Database of samples analyzed, QA metrics, and chain of custody forms, , including round robin analyses (MS Access and Excel formats).

VI. QA Requirements:

Calibrations of scientific instruments shall be performed under the approved QAPP including existing Standard Operating Procedures. Standard "good laboratory practices" for maintaining notebooks shall be employed. Any notebooks shall be provided to EPA in electronic format. The following SOPs shall be used to conduct the activities outlined in this work assignment: 1) ECAB-108.3E "Carbopack X Sorbent Tube Handling: Conditioning, Blanking, Diffusive Sample Collection, and Sample Storage," and 2) ECAB-105.3E "Use of the Exposure Chamber for Loading Passive Sampling Devices with Volatile Organic Compounds."

VII. Deliverables:

Task	Activity	Date	Comments
1	Work Plan Provide Monthly Progress Reports	20 days after effective date of WA By the 15 th of the following month	NA
3	QAPP	3 weeks prior to commencement of field sampling.	WA COR to provide sampling plans from regions
4	Short-form report of field sampling /round robin data in appropriate electronic format databases (MS Access and Excel formats).	Monthly	

VIII. Reporting Requirements:

The Contractor shall provide monthly progress reports in accordance with the terms of the contract. The Contractor shall submit work products in electronic as well as hard copy form. In addition, the Contractor shall deliver to the WAM each draft and final report in electronic format that is readable by windows-based word-processing (Microsoft Word), graphics (Microsoft PowerPoint), spreadsheet (Excel), and database (Access) programs. The Contractor shall also provide electronic copies of reports in PDF format.

Table 1. Shipping and experimental matrix for passive sorbent laboratory evaluation (preliminary)

Batch	Sample Type	Eastern Research Group (ERG)	Laboratory A	Laboratory B	Laboratory C
1	Lab Blank	Supplies Tubes to fixed price	Analysis of 3	Analysis of 3	Analysis of 3
	(Zero)	laboratories. (EPA conditioned	Sorbent Tubes	Sorbent Tubes	Sorbent Tubes
		tubes.)			
1	Low-range	Ships tubes to fixed price	Analysis of 3	Analysis of 3	Analysis of 3
	diluted	laboratories.	Sorbent Tubes	Sorbent Tubes	Sorbent Tubes
	calibration gas				
	sample				
	(~2-5 ppbv; 9				
	VOCs ^a)				
2	Mid-range	Ships tubes to fixed price	Analysis of 3	Analysis of 3	Analysis of 3
	diluted	laboratories.	Sorbent Tubes	Sorbent Tubes	Sorbent Tubes
	calibration gas		100		AMOUNT IN STREET
	sample (~20-				
	25ppbv; 9				
	VOCs ^a)				

^a 1,3-Butadiene, Benzene, Toluene, Ethylbenzene, m-Xylene, p-Xylene, Styrene, o-Xylene, and Carbon Tetrachloride

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Contract Number	Contract Period 0.4 /	′29/2011 To	03/31/2	2014	Title of Work Assign			
EP-D-11-006 Base Option Period Number 2					Passive Sampling Methods			
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EASTERN RESEARCH GROUP, I	NC.				_			
Purpose: Work Assignment		Work Assignment C	Close-Out		Period of Performance			
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Work Plan Approval					From 04/01/2013 To 03/31/2014			
Comments:					•			
See Attached.								
This amendment is in accordance	with CMM 7.3.5.1(D).						
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Work Assignment Manager Name Shaibal	Mukerjee			Brar	Branch/Mail Code:			
				275 0275570	Phone Number 919-541-1865			
(Signature) (Date)				11 10 144.1	FAX Number:			
Project Officer Name Karen C. Watson					Branch/Mail Code:			
					Phone Number: 919-541-3114			
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					Phone Number: 919-541-3112			
(Signature)		(Date)	FAX	Number:			

EP-D-11-006 WA 3-09 Amendment 1

This amendment recognizes that a work plan and cost estimate have been received. While the technical approach is acceptable, due to a misunderstanding that the round robin analyses was to be on an every other biweekly period (versus the one 15 sample event in the cost estimate dated 5/13/13), a revised cost estimate is required.

An additional 120 hours are hereby added for work to continue until a revised cost estimate can be received, reviewed, and ultimately approved. The total hours this authorized is now 240.